DEPARTMENT OF ENVIRONMENTAL QUALITY
Environmental Assessment

Permitting and Compliance Division
Water Protection Bureau

Name of Project: Vaughn-Cascade County Sewer District

Location of Project: 1110 6th Avenue, T 21N, R 1E, Section 25

City/Town: Vaughn **County**: Cascade

Description of Project: This is the reissuance of an MPDES permit for the domestic wastewater treatment facility used by the un-incorporated community of Vaughn. The community operates a three-cell aerated lagoon that continuously discharges to the Sun River. Treated effluent is not disinfected.

Agency Action and Applicable Regulations: The proposed action of the Department is to reissue the MPDES permit for a five-year cycle.

Applicable rules and statute:
ARM Title 17, Chapter 30, Sub-chapter 2 - Water Quality Permit Application and Annual Fees.
ARM Title 17, Chapter 30, Sub-chapter 5 - Mixing Zones in Surface and Ground Water.
ARM Title 17, Chapter 30, Sub-chapter 6 - Surface Water Quality Standards.
ARM Title 17, Chapter 30, Sub-chapter 7 - Nondegradation of Water Quality.
ARM Title 17, Chapter 30, Sub-chapter 12 and 13 - Montana Pollutant Discharge Elimination System Standards.
Montana Water Quality Act, MCA 75-5-101 et. seq.

Summary of Issues: A Total Maximum Daily Load (TMDL) restoration plan was prepared by the Department and accepted by the EPA in February 2005 for the Sun River Watershed. The wastewater discharge was identified as a source contributing to elevated phosphorus loads in the Sun River. A Wasteload Allocation (WLA) was established by the TMDL for the point sources. The permit contains nutrient limits as a result of the approved TMDL.

Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts). *Include frequency, duration (long or short term), magnitude, and context for any significant impacts identified. Reference other permit analyses when appropriate (ex: statement of basis). Address significant impacts related to substantive issues and concerns. Identify reasonable feasible mitigation measures (before and after) where significant impacts cannot be avoided and note any irreversible or irretrievable impacts. Include background information on affected environment if necessary to discussion.*

N = Not present or No Impact will likely occur. *Use negative declarations where appropriate (wetlands, T&E, Cultural Resources).*

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	[N] The wastewater treatment facility has been located at this site for decades. The lagoons are built adjacent to a former side channel of the Sun River (Vaughn Slough). The underlying geology is Quaternary alluvium. The USDA has identified the underlying soil as Havre loam, saline. The Havre loam, saline is "somewhat limited" for sewage lagoons, as reported by the USDA, which indicates that the soil has features that are moderately favorable to the specified use. The area is in a low seismic probability area of MT. Based on information from the USGS, the probability of an event with greater than or equal to 5 body-wave magnitude (M) with in 10 years and 50-kM from the facility is 0.02-0.03. When the timeframe is increased to 10 years (distance the same), the probability increases to 0.10-0.20.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	[N] The wastewater treatment facility has been located at this site for decades. Additional parameter limits have been added to protect the receiving water quality (specifically for pathogens and nutrients). Numerous wells dot the area surrounding the lagoons and are used for both domestic & stock water. Well logs show that wells completed near the lagoon (less than 0.5 mi) are shallow (less than 150') and are completed in alluvium or Glacial Great Falls Lake sediments. Well logs show screened intervals to be the lower 10' +/- of the well, or the wells are open at the bottom.
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N[The existing facility may release odor during spring turn-over. An aerated facility should reduce the time of spring turn-over through the addition of air. No other air quality impacts are expected.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N] The wastewater treatment facility has been located at this site for decades. No additional disturbance in the area is expected to be associated with the wastewater treatment facility. In preparation of this document, a request was made to the Natural Heritage Program to determine if any species of concern were located w/in 1-mi of the facility; none were reported.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[N] The wastewater treatment facility has been located at this site for decades.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] The wastewater treatment facility has been located at this site for decades. A survey of the National Heritage Program database lists one species of special concern – Chestnut-collared Longspur (bird). US BLM lists it as "sensitive". Its identified area overlaps the receiving water, the Sun River.
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] The wastewater treatment facility has been located at this site for decades.
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N] The wastewater facility has been in the current location for decades. Urban development is low.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are	No impacts are expected.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
limited in the area? Are there other activities nearby that will affect the project? Will new or upgraded powerline or other energy source be needed)	
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	No impacts are expected.

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N] Public health and safety will be improved by treating the community's domestic sewage prior to discharge.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N] No impacts are expected at this time.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N] No impacts are expected at this time.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] No impacts are expected at this time.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] No impacts are expected at this time.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] No impacts are expected at this time.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] No impacts are expected at this time.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N] No impacts are expected at this time.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] No impacts are expected at this time.
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N] No impacts are expected at this time.
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N] No impacts are expected at this time.
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[N] No impacts are expected at this time.

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[ ]
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	[ ]

23. Description of and Impacts of other Alternatives Considered: None

24. Summary of Magnitude and Significance of Potential Impacts: None

25. Cumulative Effects: None

26. Preferred Action Alternative and Rationale: The preferred action is to reissue the MPDES permit. This action is preferred because the permit program provides the regulatory mechanism for protecting water quality by enforcing the terms of the MPDES permit.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

Rationale for Recommendation:

27. Public Involvement: A 30-day public comment period will be held.

28. Persons and agencies consulted in the preparation of this analysis: None

EA Checklist Prepared By: Rebecca Ridenour **Date:** June 20, 2007

Approved By:

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Bonnie Lovelace, Chief Date
Water Protection Bureau